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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,070	04/13/2004	Christopher J. Diorio	2051.005US1	6996

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EXAMINER	
BROWN, VERNAL U	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/824,070	DIORIO ET AL.	
	Examiner	Art Unit	
	Vernal U. Brown	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-53* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-53* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

The application of Christopher Diorio for Method And System to Calibrate An Oscillator Within An RFID Circuit Responsive to a Received Update Value filed 4/13/2004. Claims 1-53 are pending.

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The current abstract using phrase "The present invention " is implied and should be avoided. Also, abstract should be limited to a single paragraph.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 48-53 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 48-53, it is not clear whether it is the description of the RFID circuit or the RFID circuit been claimed. Claim 14 includes the phrase " machine-readable medium storing

a description of a radio frequency identification circuit" but the description of what is store on the machine readable medium is not in the claim, only the description of the RFID circuit is claimed.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 48-53 are rejected under 35 U.S.C. 101 because descriptive materials are not capable of causing functional change in the computer. The description is not a physical thing, it is neither a computer components or statutory processes, as they are not 'acts" being performed.. When nonfunctional descriptive material is recorded on a machine- readable medium, it is not statutory since no requisite functionality is present to satisfy the practical application requirement.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-11, 13-20, 24-25, 27-33, 36-41, 43, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Beigel et al. US Patent 6249212.

Regarding claims 1, 24, and 47 Beigel et al. teaches a radio-frequency identification (RFID) tag (col. 5 lines 66-67) that include a memory for storing calibration values for generating an oscillation frequency signal within the RF tag (col. 6 lines 36-40). The memory is non-volatile since it is able to store different frequencies required to emulate new tags even when the tag is no longer powered (col. 3 lines 59-64, col. 4 lines 1-6, and 16-21; col. 6 lines 38-41; col. 7 lines 53-63). Beigel et al. teaches the tag comprises an oscillator (203) that receives a frequency value (calibration value) and generates an oscillation signal using the received frequency value (col. 3, lines 59-63; col. 4 lines 16-21 and 32-47; and col. 6 lines 32-41). Beigel et al. teaches a controller in the form of a microprocessor (13) that generates a command signal based on the data demodulated from the radio frequency signal (col. 6 lines 19-23 and col. 66-67). The controller therefore receives the update because the update is transmitted from the reader to the tag (col. 6 lines 36-40) and the controller control the reception of the data.

Regarding claim 2, Beigel et al. teaches transmitting the update value (calibration command) to the tag to be stored in the memory (col. 6 lines 36-40).

Regarding claims 3 and 25, Beigel teaches the clock generator includes an oscillator which is phase locked to the received carrier and the oscillator maintain a memory for storing the values in order for the oscillator to maintain its phase lock frequency if the carrier is loss (col. 6 lines 31-36). The value stores in the memory for maintaining the phase lock frequency is considered the first calibration value. Beigel et al. teaches the update is transmitted from the reader to the tag and is use to generate a second calibration value for generating the different frequencies (col. 6 lines 36-40).

Regarding claims 5 and 27, Beigel et al. teaches the reader (external device) transmitting the update value to the tag to be stored in the memory and the update value is use to calibrate the oscillator for generating the desired frequency (col. 6 lines 36-40). The update value is equal to the calibration value because the update value is used in calibrating the oscillator.

Regarding claims 6 and 28, Beigel et al. teaches a front end represented by the transducer (3) for receiving radio frequency signal from the reader (col. 5 line 66-col. 6 line 10).

Regarding claims 7 and 29, Beigel et al. teaches the calibration device is RFID reader because the reader transmits the new frequencies (calibration values) to the tag (col. 6 lines 38-41).

Regarding claims 8 and 30, Beigel et al. teaches the calibration value is independent of the frequency of the forward link radio frequency received at the tag the calibration values stored in the memory is used the carrier frequency is not been received at the tag (col. 6 lines 32-36).

Regarding claims 9-10 and 31-32, Beigel et al. teaches the oscillator is initialize with the calibration values store in the memory upon detecting a signal appearing on the transducer (col. 12 lines 11-20). The detection of the signal on the transducer also represents the powering up of the tag because the tag extracts its power from the received signal (col. 6 lines 48-54).

Regarding claims 11, 13, and 33, Beigel et al. teaches the clock generator generates all the clocks frequencies for the tag (col. 6 lines 28-30). Beigel et al. teaches a demodulator (5) for demodulating the received signal (col. 6 lines 16-25) and the clock generator includes an oscillator circuit (col. 6 lines 30-33).

Regarding claims 14-17, 19-20, and 37-40, 43 Beigel et al. teaches the tag controller storing the calibration values corresponding to the respective oscillation frequency of the

oscillator (col. 6 lines 36-40). The selection criteria of the calibration value are based on the desired oscillation frequencies.

Regarding claim 18, Beigel et al. teaches calibration values are transmitted from the reader to the tag and is extracted from the received radio frequency signal (col. 6 lines 36-40).

Regarding claim 36, Beigel et al. teaches the clock generator generates all the clocks frequencies for the tag using the oscillator including the system clock (col. 6 lines 28-30).

Regarding claim 41, Biegel teaches the demodulator extracting bit timing information from the received radio frequency signal to determine the modification value by which the oscillator frequency is to be modify (col. 6 lines 17-25).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beigel et al. US Patent 6249212 in view of Soong et al. US Patent 6472943.

Regarding claims 4 and 26, Beigel et al. teaches a calibration value for providing the different frequencies (col. 6 lines 36-40) but is silent on teaching increment or decrement the modification value to generate a first calibration value. Soong et al. in an art related Oscillating

circuit invention teaches adding or deleting a number of cycles by the frequency signal (col. 5 line 58-col. 6 line 4) in order to calibrate the oscillator signal.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beigel et al. method of calibrating an oscillator circuit as taught by Soong et al. because increment or decrement the modification value to generate a first calibration value is an effective means of adjusting the frequency of the oscillations to the desired value.

Claims 12, 21, 35, 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beigel et al. US Patent 6249212 in view of Shober et al. US Patent 5649295.

Regarding claims 12, 21, 35, and 44, Beigel et al. teaches the clock generator generates all the clocks frequencies for the tag (col. 6 lines 28-30). Biegel teaches a modulator (11) for modulating the signal transmitted to the reader (col. 6 lines 63-65). Biegel is silent on teaching backscattering the radio frequency signal to the RFID reader. Shober et al. in an art related RFID system teaches the tag backscattering the radio frequency signal to the RFID reader (col. 7 lines 51-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beigel et al. RFID tag as taught by Shober et al. because backscattering the modulated RF signal from the RFID tag to the RFID reader allows greater transmission range between the RFID tag and the reader.

Claims 22-23, 45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beigel et al. US Patent 6249212 in view of Shanks et al. US Patent 6784813.

Regarding claim 22, 45, Beigel et al. teaches a radio-frequency identification (RFID) tag (col. 5 lines 66-67) that include a memory for storing calibration values for generating an oscillation frequency signal within the RF tag (col. 6 lines 36-40) but is silent on teaching applying a successive approximation algorithm in calibrating the oscillator. Shanks et al. in an art related invention in the same field of endeavor of oscillator calibration in a tag teaches calibrating an oscillator by applying successive approximation algorithm (col. 19 lines 40-49).

It would have been obvious to one of ordinary skill in the art to at the time the invention was made to modify Beigel et al. RFID tag as taught by shanks et al. because applying a successive approximation algorithm in calibrating the oscillator provides a dynamic calibration of the oscillator and enable the tag to adjust its frequency in order to maintain communication with the reader.

Regarding claim 23, 46, Beigel et al. teaches a radio-frequency identification (RFID) tag (col. 5 lines 66-67) that include a memory for storing calibration values for generating an oscillation frequency signal within the RF tag (col. 6 lines 36-40) but is silent on teaching applying a feedback algorithm in calibrating the oscillator. Shanks et al. in an art related invention in the same field of endeavor of oscillator calibration in a tag teaches calibrating an oscillator by applying a feedback algorithm (col. 47 lines 8-22) in order to maintain the correct frequency of the clock signal.

It would have been obvious to one of ordinary skill in the art to at the time the invention was made to modify Beigel et al. RFID tag as taught by shanks et al. because calibrating an oscillator by applying a feedback algorithm allows the application of frequency adjustment to the clock in order to maintain the correct frequency of the clock signal.

Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Beigel et al. US Patent 6249212 in view of Davis et al. US Patent 5652771.

Regarding claim 34, Biegel teaches the demodulator extracting bit timing information from the received radio frequency signal to determine the modification value by which the oscillator frequency is to be modify (col. 6 lines 17-25) but is silent on teaching over sampling the received radio frequency signal. Davis et al. in an art related communication system teaches over sampling the received radio frequency signal and use the samples as a means of adjusting the demodulator clock (col. 1 lines 12 –45).

It would have been obvious to one of ordinary skill in the art to at the time the invention was made to modify Beigel et al. RFID tag as taught by Davis et al. because over sampling the received radio frequency signal to determine the modification value by which the oscillator frequency is to be modify in order for the clock circuit to be synchronize with the incoming radio frequency signal.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vernal U. Brown whose telephone number is 571-272-3060. The examiner can normally be reached on 8:30-7:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Vernal Brown
July 17, 2006

BRIAN ZIMMERMAN
PRIMARY EXAMINER